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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,723	07/22/2002	Benoit Couet	US57.0410-W0	6931

7590 02/11/2003

Schlumberger Doll Research
Intellectual Property Law Department
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EXAMINER
BELLAMY, TAMIKO D

ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 02/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/088,723	COUET ET AL.	
	Examiner	Art Unit	
	Tamiko D. Bellamy	2856	

-- Th MAILING DATE of this communication app ars on th cov r sh et with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-6, 8-26 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims1, and 3-25 of copending Application No. 10/088,752. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claims are anticipated by the reference claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

With respect to claim 1, the copending application '752 does not specifically recite the use a frequency range of 10 kHz to 250 kHz. However the copending application '752 recites in claims 1and 5 the use of an acoustic device, the device includes a monitoring surface directly exposed to fluids, the deposition of material on the monitoring surface is monitored by measuring a change in resonance frequency of the acoustic device, and a power supply. The

particular range of the resonance frequency, absent any criticality, is considered the "optimum range of the frequency used by the Prior Art, such recited range would have been one of ordinary skill in the art. In re Boesch, 205 USPQ 215 (CCPA 1980). Therefore, at the time the invention was made it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify claim 1 of the copending application '752 with the teaching of claim 1 of the application '723, for the purpose of providing a change in resonance frequency within a specified range.

With respect to claims 2 and 20, the copending application '752 recites in claims 3 and 19 the use of an acoustic device operates in a longitudinal mode.

With respect to claims 3 and 21, the copending application '752 recites in claims 4 and 20 the use of a transducer, and a focussing element coupled to the transducer.

With respect to claim 4, the copending application '752 recites in claim 5 the use of a focussing element than is an acoustic horn.

With respect to claims 5 and 22, the copending application '752 recites in claims 6 and 21 the use of a resonance frequency of the acoustic device is in the range of 10 kHz to 150 kHz.

With respect to claim 6, the copending application '752 recites in claim 7 the use of a resonance frequency of the acoustic device is in the range of 50 kHz to 100 kHz.

With respect to claims 8 and 18, the copending application '752 recites in claims 8 and 17 the use of monitoring surface is located on or near one of the following devices switches, valves, sleeves, and mandrels.

With respect to claim 9, the copending application '752 recites in claim 9 the use of a deposit removal system.

With respect to claims 10 and 23, the copending application '752 recites in claims 10 and 22 the use of the deposit removal system includes a disposition inhibiting or removing chemical agent.

With respect to claims 11 and 24, the copending application '752 recites in claims 11 and 23 the use of the deposit removal system uses the acoustic device to exert a physical force onto the deposited material.

With respect to claims 12 and 25, the copending application '752 recites in claims 12 and 24 the use of the deposition removal system is near a sensor.

With respect to claims 13 and 26, the copending application '752 recites in claims 13 and 25 the use of the sensor is selected from a group comprising optical sensors, electrochemical sensors, or acoustic sensors.

With respect to claim 14, the copending application '752 recites in claim 14 the use of the exposed sensor surface is selected from a group comprising optical windows, membranes, or sensitive areas of acoustic sensors.

With respect to claim 15, the copending application '752 recites in claim 15 the use of the sensor includes an additional sensing system.

With respect to claim 16, the copending application '752 recites in claim 16the use of a deposit monitor adapted to measure deposition of material, a power supply, a deposit removal system in communication with the deposit monitor, and the deposit removal system being in a control loop with said deposit monitor.

With respect to claim 19, the copending application '752 recites in claim 18 the use of deposit monitor further comprises an acoustic device adapted to operate in a resonance mode.

Claim Objections

3. Claim 14 is objected to because of the following informalities:

Claim 14 should be a dependent of claim 12.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kraus et al. (5,734,098).

With respect to claim 1, Kraus et al. discloses in Figs. 1 Granstaff et al. 5,201, 215 incorporated by reference into the specification (col. 3, lines 10-13), and as stated in Granstaff et al. '215, the mass of a solid physical properties of a fluid may be determined when both the mass and the fluid contact the same quartz crystal by applying an oscillating electric field across the thickness of the quartz crystal microbalance in contact with a solid mass interposed between the quartz crystal microbalance and a fluid, and

measuring one resonant frequency (col. 3, line 45-56), using microbalances to measure the amount of scaling, deposit formation or mass loss occurring in both hydrocarbon and aqueous systems is known; these devices operate to excite the quart crystal in contact with a fluid to a resonant frequency (col. 1, lines 53-59), the thickness-shear mode device may be installed on the surface of a container for such fluid (col. 4, line 51), and the invention may be employed in any situation where it is desired to know the rate at which organic foulants are formed on the surfaces of flow lines (col. 5, lines 25-28). It is well known in the art to use acoustic devices to monitor fluids in a hydrocarbon wellbore, and containing a flow line in which the fluid passes through. Therefore the method Kraus et al. discloses inherently can be used in a wellbore as claimed.

With respect to claim 7, Kraus et al. discloses the detetermination of scaling in a hydrocabon process (col. 4, lines 63-65).

With respect to claim 8, Kraus et al. discloses the thickness-shear mode device may be installed on the surface of a container for such fluid (col. 4, line 51), and the invention may be employed in any situation where it is desired to know the rate at which organic foulants are formed on the surfaces of flow lines (col. 5, lines 25-28). It is well known in the art to use acoustic devices to monitor fluids in a hydrocarbon wellbore, and containing a flow line in which the fluid passes through. Therefore the method Kraus et al. discloses is inherently used in a wellbore as claimed.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraus et al. (5,734,098).

With respect to claims 5 and 6, Kraus et al. lacks the detail of a resonance frequency in the range of 10kHz to 150 kHz, and 50Hz to 100 kHz. The particular range of the resonance frequency, absent any criticality, is considered the "optimum range of the frequency used by the Prior Art, such recited range would have been one of ordinary skill in the art. In re Boesch, 205 USPQ 215 (CCPA 1980).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamiko D. Bellamy whose telephone number is (703) 305-4971. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Tamiko Bellamy
T.B.
February 10, 2003

HELEN KWOK
PRIMARY EXAMINER